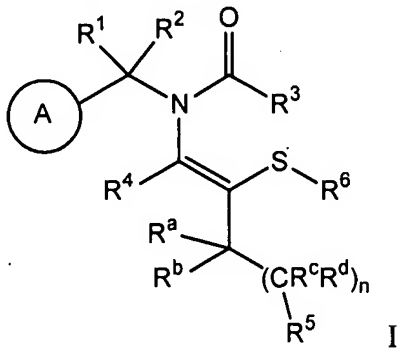
Amendments to the Claims

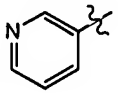
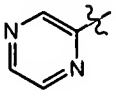
This listing of claims will replace all prior versions and listings of claims in the application.

1. (Original) A compound of formula I:



I

or a pharmaceutically acceptable derivative thereof, wherein:

ring A is a heteroaryl selected from  or  ;

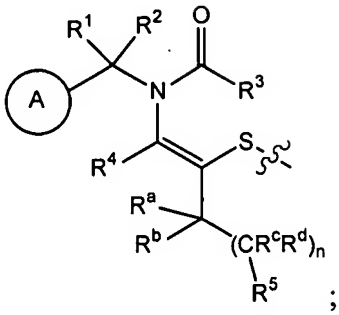
each R^1 and R^2 is independently H, alkyl, or fluoroalkyl;

R^3 is H, alkyl, fluoroalkyl, aralkyl, carbocyclylalkyl, heterocyclyl, carbocyclyl, heterocyclylalkyl, aryl, heteroaryl, heteroaralkyl, -C(O)R, -OR, $-(CH_2)_{1-6}OR$, $-(CH_2)_{1-6}N(R)_2$, $-N(R)_2$, or -C(H)(OR)R;

R^4 is H, alkyl, fluoroalkyl, $-CO_2R$, $-CON(R)_2$, carbocyclyl, carbocyclylalkyl, heteroaryl, or heterocyclyl;

R^5 is $-OR^7$ or $-NR^8R^9$;

R^6 is -C(O)R, -C(S)R, -C=C-C(O)R, -SR, $-S-W-OR^7$, M, or Y;

Y is  ;

R^7 is R°, -C(O)R, -C(O)N(R)$_2$, -C(O)OR, -(CH$_2$)$_{1-6}$-C(O)R, -PO$_3$M$_x$, -P(O)(alkyl)OM', -(PO$_3$)$_2$M$_y$, carbocyclyl, aryl, heterocyclyl, heteroaryl, carbocyclylalkyl, aralkyl, heterocyclylalkyl, heteroaralkyl, or a tumor-targeting moiety;

x is 1 or 2;

y is 1, 2 or 3;

each M is independently H, Li, Na, K, Mg, Ca, Mn, Co, Ni, Zn, or alkyl;

M' is H, Li, Na, K, or alkyl;

R^8 is H or alkyl;

R^9 is H, alkyl, -C(O)R, -C(O)N(R)$_2$, -C(O)OR, -SO$_2$R, -SO$_2$N(R)$_2$, carbocyclyl, aryl, heterocyclyl, heteroaryl, carbocyclylalkyl, aralkyl, heterocyclylalkyl, heteroaralkyl or a tumor targeting moiety;

each R^a and R^b is independently H, OR°, alkyl, or fluoroalkyl;

each R^c and R^d is independently H, alkyl, or fluoroalkyl;

n is 0-4;

W is alkylene, arylene, heteroarylene, carbocyclylene, or heterocyclylene;

R° is H or alkyl; and

R is R°, carbocyclyl, aryl, heterocyclyl, heteroaryl, carbocyclylalkyl, aralkyl, heterocyclylalkyl, or heteroaralkyl.

2. (Currently amended) The compound of **claim** 1, wherein R^6 is Y.

3. (Canceled)

4. (Currently amended) The compound of **claim** 1, wherein:

i) R^1, R^2 and R^4 are independently H, C_{1-6} alkyl or fluoro(C_{1-6} alkyl);

ii) R^3 is H, alkyl, fluoroalkyl, $-(CH_2)_{1-6}OR$, $-(CH_2)_{1-6}N(R)_2$, $-NR^oC(O)R$, $-C(O)R$, $-C(H)(OR)R$, aralkyl, heterocyclyl, heterocyclylalkyl, heteroaryl, or heteroaralkyl;

iii) R^6 is -C=C-C(O)R, -SR, -S-W-OR^7, M or Y;

iv) R^7 is H, alkyl, -C(O)R, $-PO_3M_x$, $-(PO_3)_2M_y$, -P(O)(alkyl)OM', $-C(O)N(R)_2$, -C(O)OR, or a tumor-targeting moiety; or R^9 is H, alkyl, -C(O)R, $-C(O)N(R)_2$, -C(O)OR, $-SO_2R$, 5-membered heterocyclyl, 5-membered heteroaralkyl, or a tumor-targeting moiety; and

v) n is 1.

5. (Currently amended) The compound of **claim** 4, wherein R is R^o, carbocyclyl, aryl, heteroaryl, heterocyclyl, aralkyl, heterocyclylalkyl or heteroaralkyl.

6. (Currently amended) The compound of **claim** 5, wherein R^o is H or C_{1-6} alkyl optionally substituted with halo, hydroxy or amino.

7. (Currently amended) The compound of **claim** 4, wherein:

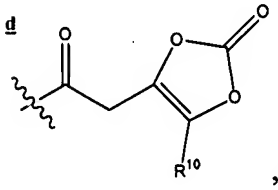
i) ring A is optionally substituted with $-OC(O)R^\dagger$, halo, $-OR^\dagger$, $-CF_3$, $-OCF_3$, $-SCF_3$, $-SR^\dagger$, $-R^\dagger$, $-NR^\dagger C(O)R^\dagger$, $-CO_2R^\dagger$, $-NO_2$, $-N(R^\dagger)_2$, -CN, $-C(O)R^\dagger$, $-C(O)N(R^\dagger)_2$, $-SO_2N(R^\dagger)_2$, $-NR^\dagger CO_2R^\dagger$, $-C(O)C(O)R^\dagger$, $-OC(O)N(R^\dagger)_2$, $-S(O)_tR^\dagger$, $-C(O)CH_2C(O)R^\dagger$, $-NR^+SO_2R^\dagger$, or $-C(=S)N(R^\dagger)_2$; and $R^\dagger$ is 3-6 membered unsubstituted cycloalkyl, phenyl, benzyl, naphthyl, pyridyl, or C_{1-6} alkyl optionally substituted with halo;

ii) R^3 is H, C_{1-6} alkyl, $-(CH_2)_{1-6}OR^o$ or $-CH(OR^o)R^o$;

iii) R^6 is -C=C-C(O)R, -SR, -S-W-OR^7 or Y; and

iv) R^8 is H or C_{1-6} unsubstituted alkyl.

8. (Currently amended) The compound of **claim** 7, wherein R^7 or R^9 is a polysaccharide, -[C(O)CH(R)N(R)]$_{2-3}$-R, an antibody, or



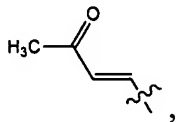
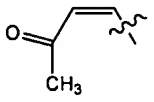
,wherein R^{10} is H, alkyl, or aryl.

9. (Currently amended) The compound of **claim** 7, wherein:

i) ring A is selected from the group consisting of rings 1-9;

ii) R^1, R^2 and R^4 are independently H, methyl, ethyl, -CH_2F, -CHF_2, or -CF_3;

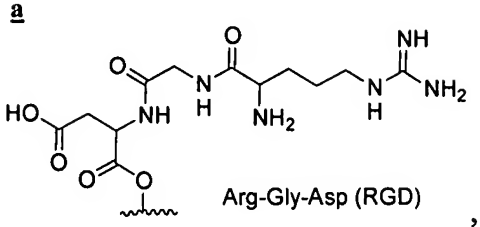
iii) R^3 is H, methyl, ethyl, -CH(OH)CH_3, -CH_2OH, or -CH_2CH_2OH;

iv) R^6 is -S-(unsubstituted C_{1-6} alkyl), Y,  , or  ;

v) R^8 is H, methyl, or ethyl; and

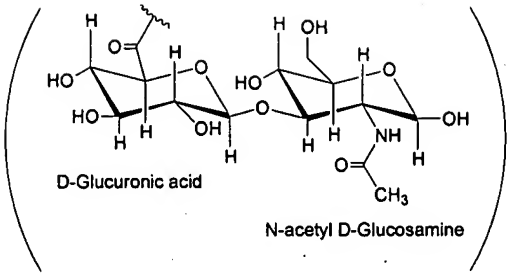
vi) R^7 is H, methyl, ethyl, -C(O)Me, -C(O)Et, -C(O)NMe_2, -C(O)-p-OMe-phenyl, -C(O)O-phenyl, -PO_3H_2, -P(O)$(OMe)_2$, -P(O)(OMe)OH, -P(O)(Me)OH, -P(O)(OH)OP(O)(OH)(OH), or R^{11}; and R^{11} is selected from the group consisting of:

a



Arg-Gly-Asp (RGD)

, b



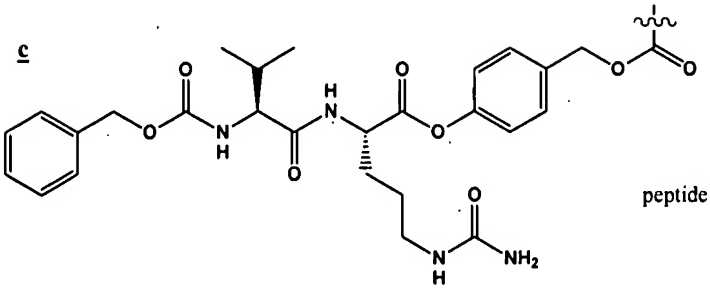
D-Glucuronic acid

N-acetyl D-Glucosamine

poly

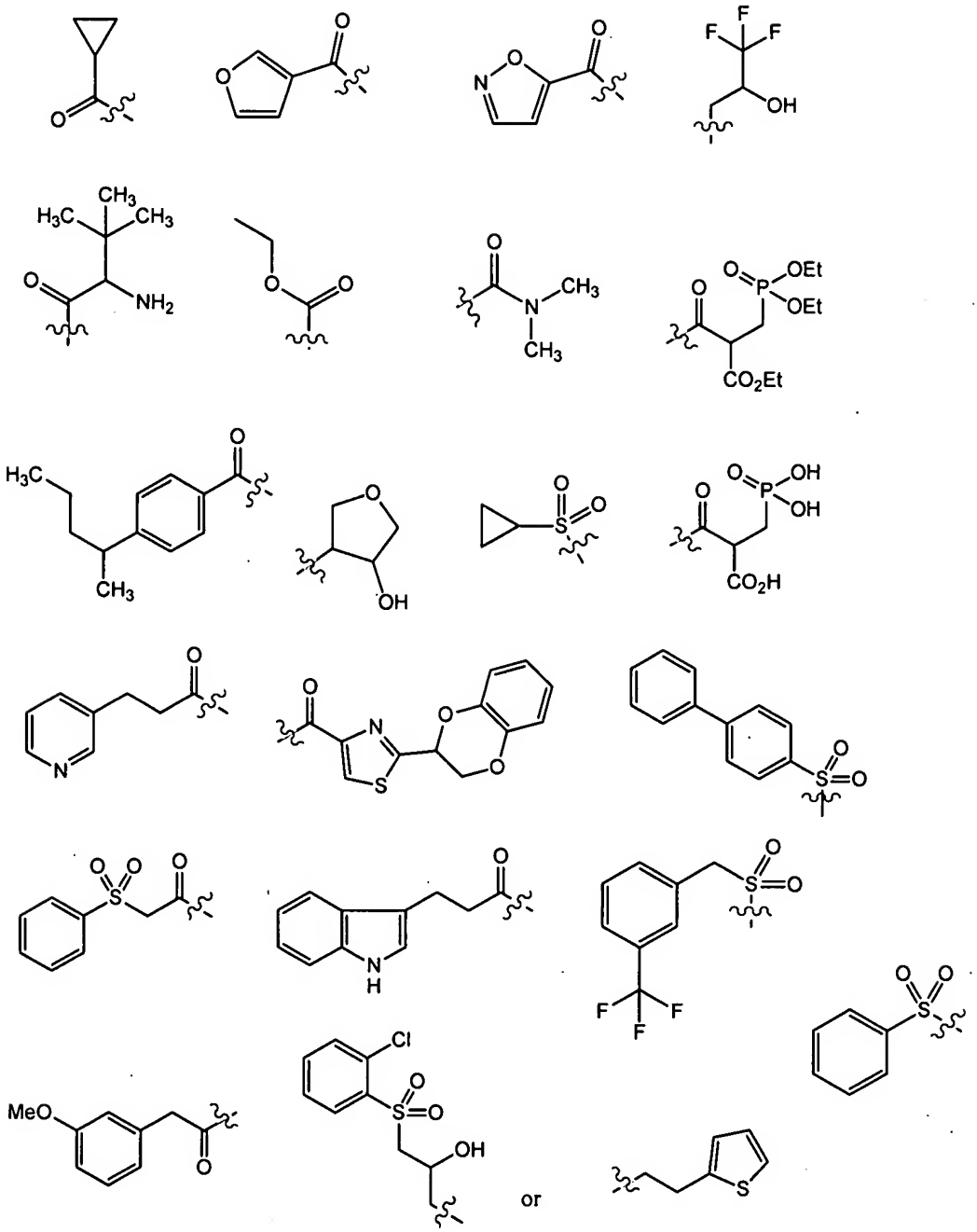
,

c



peptide Z-Val-Cit-PABOH

, and an antibody; or R^9 is H, methyl, ethyl, R^{11},



10. (Currently amended) The compound of **claim** 1, wherein said compound is III-1 to III-18 or IV-1 to IV-18.

11. (Currently amended) A pharmaceutical composition comprising a compound of **claim** 1 and a pharmaceutically acceptable carrier.

12. (Currently amended) The composition of **claim** 11, further comprising at least one chemotherapeutic agent, antiangiogenic agent or agent which modulates signaling associated with hypoxic conditions in a cell.

13. (Currently amended) A method for inhibiting transketolase activity in a biological sample or a patient in need thereof comprising contacting said biological sample with or administering to said patient an effective amount of a compound of **claim** 1.

14. (Currently amended) A method for reducing levels of ribulose/ribose-5-phosphate in a cell comprising administering to the cell an effective amount of a compound of **claim** 1.

15. (Currently amended) A method for inhibiting nucleic acid synthesis in a cell comprising administering to the cell an effective amount of a compound of **claim** 1.

16. (Currently amended) A method for inhibiting cell proliferation comprising administering to the cell an effective amount of a compound of **claim** 1.

17. (Currently amended) A method for increasing apoptosis in a tumor cell comprising administering to the cell an effective amount of a compound of **claim** 1.

18. (Currently amended) A method for reducing tumor growth in a patient comprising administering an effective amount of a compound of **claim** 1 to the patient in need thereof.

19. (Currently amended) The method of **claim** 18, further comprising administering at least one chemotherapeutic agent, antiangiogenic agent or agent which modulates signaling associated with hypoxic conditions in a cell.

20. (Currently amended) The method of **claim** 18, further comprising limiting thiamine concentrations in the patient during the administration step.

21. (Currently amended) The method of **claim** 20, wherein the patient is on a reduced thiamine diet during the administration step.

22. (Currently amended) The method of **claim** 21, wherein cellular thiamine concentrations are maintained at a level sufficient to avoid toxicity associated with thiamine deficiency.